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The Trane Company
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EXAMINER	
ROBINSON BOYCE, AKIBA K	

ART UNIT	PAPER NUMBER
3639	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/747,642	MORONEY ET AL.	
	Examiner	Art Unit	
	Akiba K. Robinson-Boyce	3639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 14-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 14-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Due to communications filed 5/9/05, the following is a final office action. Claims 1-8 and 14-22 stand rejected. The previous rejection has been maintained and claims 1-8 and 14-22 are rejected as follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-8, and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradbury et al (US 6,772,026), and further in view of Kawas et al (US 6,058,262).

As per claim 1, Bradbury et al discloses:

developing an electronic specification describing the product and its components, (col. 2, lines 31-40, [digital model converted to machine instructions], Col. 4, lines 32-34, [shows surrounding structure]);

forwarding the electronic specification to one of the several companies, (Col. 2, lines 35-38, [communication interchanges]);

the specific company building the component or product in accordance with requirements in the electronic specification, (col. 18,lines 38-45, [manufacturing according to machine instructions]);

the specific company testing the component product, (col. 18, lines 47-51, [results compared for verification]);

the specific company determining if the product is completed, (col. 20, lines 50-53, [approval of final order]); and

either shipping the completed product to the customer or forwarding the electronic specification with appended test results to another one of the several companies, (Col. 18, line 51-52, [shipping the biomedical device]).

The following is obvious with Bradbury:

the specific company appending the test results to the electronic specification;

Since Bradbury et al discloses that instructions are placed in a record in col. 21,lines 8-17. Since Bradbury et al also shows that modifications can be made to instructions in col. 29, lines 24-31, test results before the actual modification is made are appended results since they are supplemental until the modification is made.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to append test results to the electronic specification with the motivation of providing a supplementary solution to the electronic specification.

Bradbury et al does not specifically disclose that some of the components are manufactured by different companies at differing locations, but does disclose that the

biomedical device (which consists of different parts) are processed by different entities that are remotely positioned in col. 4, lines 19-22.

However Kawas et al discloses:

Some of the components are manufactured by different companies at differing locations, (col. 7, lines 56-60, and col. 8, lines 45-47, [where a communication characteristic between two of the products for a complete design of desired products is housed in two physical locations, such as two different sites, or can be extended to may sites]). Kawas et al discloses this limitation in an analogous art for the purpose of showing that each product used for final design is processed in the location in which the communication characteristic exists, which are separate locations]).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for some of the components to be manufactured by different companies at differing locations with the motivation of utilizing a wide variety of parts for a final design.

As per claim 2, Bradbury et al discloses:

wherein the forwarding step includes the step of providing a central server to centralize the forwarding step, (Col. 10, lines 31-37, [central site]).

As per claims 3, 17, Bradbury et al does not specifically disclose providing a bill of materials for the components and the product at the time the electronic specification is developed, or wherein the generating step includes the further step of creating a bill of materials and a specification, however does disclose billing procedures in col. 25, lines 55-57.

However, Kawas et al discloses:

providing a bill of materials for the components and the product at the time the electronic specification is developed/creating a bill of materials and a specification (Col. 6, line 67-Col. 7, line 4, [bill of materials]). Kawas et al discloses this limitation in an analogous art for the purpose of showing that a bill of material is applicable to a specific network segment.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide a bill of materials for the components and the product at the time the electronic specification is developed with the motivation of providing billing information according to specific instructions.

As per claims 4, 21, Bradbury et al does not specifically disclose periodically comparing the bill of materials to the electronic specification to verify the accuracy of both or wherein the installation developing sequence includes a further step of cross checking the bill of materials with the installation sequence, but does disclose billing procedures in col. 25, lines 55-57.

However, Kawas et al discloses:

periodically comparing the bill of materials to the electronic specification to verify the accuracy of both/ wherein the installation developing sequence includes a further step of cross checking the bill of materials with the installation sequence, (Col. 5, lines 35-42, [bill of materials for network segment], and col. 7, lines 2-4, [shows validation of infrastructure specification], Fig. 11 shows comparison of total cost versus a description of the part used]). Kawas et al discloses this limitation in an analogous art for the

purpose of showing that the infrastructure is validated for verify that the correct parts are used.

As per claim 5, Bradbury et al discloses:

step of saving at least one updated version of the electronic specification, (Col. 21, lines 8-17, [maintaining a record]).

As per claim 6, Bradbury et al does not specifically disclose comparing the updated version of the electronic specification with an electronic specification having appended test results, but does disclose modifications to test results in Col. 29, lines 24-31.

However, Kawas et al discloses:

comparing the updated version of the electronic specification with an electronic specification having appended test results, (Col. 7 lines 25-33, [change or add and used to compare designs]). Kawas et al discloses this limitation in an analogous art for the purpose of showing that infrastructure specifications and the design can be modified and compared to other designs.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to compare the updated version of the electronic specification with an electronic specification having appended test results with the motivation of verifying that the appended results are correct.

As per claim 7, Bradbury et al discloses:

step of revising the updated version to include late customer changes, (Col. 2, lines 35-38, [modification of digital model]).

As per claim 8, Bradbury et al discloses:

comparing the revised updated version of the electronic specification with an electronic specification having appended test results, (Col. 28, line 65-Col. 29, line 9, [modifying and comparing device with model to verify fit]);

wherein the comparing step includes the steps of determining and implementing late customer changes to the electronic specification in the product or components, (col. 29, lines 23-31, [applying a set of changes within constraints]).

As per claim 14, Bradbury et al fails to disclose calling for the next input or output component to be operably connected to the communication bus as identified by the installation sequence; and verifying the operability of the component and the bus, but does disclose test results, and modifications to those test results in Col. 29, lines 24-31.

However, Kawas et al discloses:

calling for the next input or output component to be operably connected to the communication bus as identified by the installation sequence; and verifying the operability of the component and the bus, (Col. 7, lines 45-50, [retrieving additional specifications and repeating the step of validating]). Kawas et al discloses this limitation in an analogous art for the purpose of showing that steps are not restricted to just once sequence.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to call for the next input or output component to be operably connected to the communication bus as identified by the installation sequence; and to

verify the operability of the component and the bus with the motivation of incorporating changes that could be made as a result of including additional buses.

As per claim 15, Bradbury et al discloses:

Receiving a first signal from the component by means of the bus, (Col. 8, lines 15-17, [output is an electrical signal]);

Determining a unique identity for the signaling component, (Col. 8, lines 17-19, [converting the signal into a suitable form for transmission]);

Responding, by means of the bus, with a second signal to the component providing the component with an identity, (col. 8, lines 19-23, [converting signal to a digital representation]).

As per claim 16, Bradbury et al discloses:

Wherein the responding step further includes the step of providing the signaling component with operational parameters, (Col. 8, lines 15-23, [converted into a suitable form, where this suitable form is the form that represents the operational parameters that the signal goes by in order to be transmitted]).

As per claim 18, Bradbury et al discloses:

Wherein the developing the build and test instruction step includes the further step of using the specification to create a build and test file, (Col. 21, lines 8-17, [allowing client to directly input specifications] and Col. 22, lines 14-22, [facilitates for creating and comparing two different digital models], and lines 3150, [shows a manufacturing application]).

As per claim 19, Bradbury et al discloses:

Wherein the build and test file is in the xml format, {Col. 6,lines 8-14, [XML]).

As per claim 20, Bradbury et al discloses:

Wherein the installation sequence developing step includes the further step of cross checking the installation sequence with the specification, (Col. 13, lines 62-65, [checking for interferences involving assembly sequences]).

As per claim 22, Bradbury et al discloses:

Wherein the verifying step includes the further steps of testing the operation of the communications bus, testing the operation of the component, and cross checking the identity, parameters and the operation of the component and the bus with the specification, (col. 4, lines 29-32, [confirming the suitability of the biomedical device]), and col. 18,lines 47-49, [verifying the product and the fit]).

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradbury et al (US 6,772,026), and further in view of Kawas et al (US 6,058,262), and further in view of Cook, III et al (US 6,320,812).

As per claim 9, Bradbury et al discloses:

generating a sales order in an electronic form, (col. 20, lines 47-67, [client interaction resulting in initial proposal for product design, ordering process via electronic mail by way of direct sales]);

converting the sales order to an electronic build document, (Col. 2, lines 31-40, [digital model converted into machine instructions]);

transferring the electronic build document to a first company for the construction of a first subassembly for the product, (col. 2, lines 35-38, [communication interchange]);

testing the subassembly of the first company, (Col. 18, lines 47-51, [results compared for verification]);

attaching the test results to the electronic build document, (Col. 21, lines 8-17, [maintaining record of instructions]);

attaching a communications bus to the product, (Col. 5, lines 49-51, [bus 24]);

testing the operability of the bus, (Col. 18, lines 47-51, [results compared for verification, where the product is directly related to the bus since each product includes a communication bus, therefore when the product is tested, the bus is also tested]);

adding the bus operability test results the electronic build document, (Col. 21, lines 8-17, [maintaining a record of instructions]);

shipping the product, (col. 18, lines 51-52, [shipping]).

Bradbury et al does not specifically disclose forwarding the electronic build document to a second company for main assembly, but does disclose that the biomedical device (which consists of different parts) are processed by different entities that are remotely positioned in col. 4, lines 19-22.

However Kawas et al discloses:

forwarding the electronic build document to a second company for main assembly, (col. 7, lines 56-60, and col. 8, lines 45-47, [where a communication characteristic between two of the products for a complete design of desired products is

housed in two physical locations, such as two different sites, or can be extended to may sites], Col. 8, line 15-19, [shows transmitting information between two sites]). Kawas et al discloses this limitation in an analogous art for the purpose of showing that each product used for final design is processed in the location in which the communication characteristic exists, which are separate locations, and that these separate locations communicate data to one another.

therefore forwarding the electronic build document to a second company is obvious with Bradbury et al.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to forward the electronic build document to a second company for main assembly with the motivation of utilizing a wide variety of parts for a final design.

Neither Bradbury et al, nor Kawas et al specifically disclose attaching the first subassembly to the bus, testing the operability of the first subassembly and the bus, and attaching the subassembly and bus operability test results to the electronic build document, but Bradbury et al does disclose testing the product, which includes a bus in Col. 18, lines 47-51.

However, Cook, III et al discloses:

attaching the first subassembly to the bus, testing the operability of the first subassembly and the bus, and attaching the subassembly and bus operability test results to the electronic build document, (Col. 9, lines 36-42, [testing and implementing]). Cook III, et al discloses this limitation in an analogous art for the

purpose of showing the process of testing in a site upon coupling a test site controller to site test buses.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to attach the first subassembly to the bus, test the operability of the first subassembly and the bus, and attach the subassembly and bus operability test results to the electronic build document with the motivation of validating that the product and the bus are operable.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 10-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Bradbury et al (US 6,772,036).

As per claim 10, Bradbury et al discloses:

generating a sales order representative of a product; (col. 20, lines 47-67, [client interaction taking the form of an initial proposal for the design of a product, where client interaction may also involve direct sales]);

developing build and test instructions from the sales order, (Col. 2, lines 31-40, [multi-dimensional digital model which is converted into machine instructions]);

developing an installation sequence from the build and test instructions, (col. 13, lines 58-65, [assembly sequences]); and

building the product using the build and test instructions in the sequence laid out by the installation Sequence, (col. 13, line 58-Col. 14, line 2, [being assembled]).

As per claim 11, Bradbury et al discloses:

wherein the developing and building steps are performed under the control of a control device, (col. 5, lines 51-54, [controllers]).

As per claim 12, Bradbury et al discloses:

wherein the product includes a communications bus, and input and output components to be operably linked to the bus, (col. 5, lines 43-51, [reading, writing, bus 24]).

As per claim 13, Bradbury et al discloses:

wherein the developing an installation sequence step is accomplished by a tester device which also oversees the building step, (col. 26, line 63-Col. 27, line 5, [operator using Therics Ray application for mechanical testing]).

Response to Arguments

7. Applicant's arguments filed 5/9/05 have been fully considered but they are not persuasive.

The applicant challenges the relevance of U.S. Patent 6,772,026 to Bradbury et al as prior art. This patent is a continuation-in-part of U.S. application Serial No. 09/828504, filed April 5, 2001, which claims the benefit of a Provisional Application No. 60/194965 as filed on April 5, 2000. The applicant argues that the application was

submitted December 22, 2002, a date, which is prior to the filing date of the continuation-in-part and filing date which is prior to the submission of the parent application Serial No. 09/828,504. The applicant submitted an Affidavit confirming that the invention claimed in the presently pending claims was conceived prior to the filing date of the Bradbury et al reference and was continuously and diligently worked on a daily basis until reduction to practice occurred in November of 2000, and submits that it is incumbent upon the Examiner to confirm that all material relied upon in making the rejections in the outstanding Office Action is actually present in U.S. Patent 6,772,026 to Bradbury et al both in terms of content, disclosure and arrangement. However, the Bradbury et al reference (US 6,772,026) does indeed claim the benefit of the filing date for application number 09/828504, which in turn claims the benefit of provisional application 60/194,965 filed 4/5/00, and therefore, the Bradbury et al does rely upon the 4/5/00 filing date. Upon comparing both the specification of the Bradbury et al reference (US 6,772,026) and the specification of application number 09/828504, the examiner finds that both, in terms of content, disclosure and arrangement disclose the same information. The examiner presents a few examples directly quoted from both the Bradbury et al reference (US 6,772,026), and application number 09/828504.

For example, in Bradbury et al, (US 6,772,026), col. 2, lines 26-31, it recites "method and system of rapid design, manufacture and/or selection of biomedical devices such as implants, oral dosage pills and implantable pharmaceuticals using electronic data and modeling transmissions via computer networks such as the Internet, intranets and/or extranets...", where page 3, lines 9-10 of application No. 09/828504

recites "method and system of rapid design and manufacture of biomedical devices using electronic data and modeling transmissions...via computer networks such as the Internet". In Bradbury et al, (US 6,772,026), col. 2, lines 47-57, it recites " allows the manufacture of biomedical devices with a great degree of design freedom and complexity as far as dimensional design, and also as far as material composition, porosity, internal architecture, and the like...In particular, it may be possible to design active content into the architecture of the implant, such as drugs, DNA, growth factors, comb polymers, and the like, that can direct, promote, or discourage ingrowth of bone, soft tissues, or vascularized tissue in particular places", where page 3, lines 21-26 of application No. 09/828504 recites "allows implants to be manufactured with a great degree of design freedom and complexity as far as dimensional design, and also as far as material composition, porosity, internal architecture, and the like. In particular, it is possible to design active content into the architecture of the implant, such as drugs, DNA, growth factors, comb polymers, and the like, that can direct, promote, or discourage ingrowth of bone, soft tissues, or vascularized tissue in particular places". In Bradbury et al, (US 6,772,026), col. 2, line 58-col. 3, line 2, it recites " Aspects of the invention may increase the responsiveness of the biomedical device preparation and surgical planning process as well as allowing customized construction of the biomedical device...it may be possible to interchange data to design and dimension a biomedical device, to visualize and confirm its suitability, to manufacture it, to deliver the biomedical device to the physician and implant or use the biomedical device in a patient, all within a few days. An increase in responsiveness will have attendant benefits to patient

treatment, especially emergency treatment. It may also reduce geographical restrictions on the availability of medical technology", where page 3, line 27-page 4, line 7 of application No. 09/828504 recites "increases the responsiveness of the implant preparation and surgical planning process as well as allowing customized construction of the implant...it is possible to transmit data back and forth, individually design and dimension an implant, visualize and confirm its suitability, manufacture it, deliver the implant to the doctor and implant it in a patient, all within a few days. This would greatly increase the responsiveness of the medical system, with attendant benefits to patient treatment, especially emergency treatment. It would also reduce geographical restrictions on the availability of this medical technology. Also, in Bradbury et al, (US 6,772,026), col. 3, lines 3-8, it recites "In a further aspect, rapid design and/or manufacture of custom pharmaceuticals or drugs such as Oral Dosage Forms (ODF); short-run applications to meet small, acute or emergency needs; or individually designed implantable pharmaceuticals or biomedical devices, may be carried out via transmission of data over computer networks.", where page 4, lines 8-12 of application No. 09/828504 recites "rapid design and manufacture of custom pharmaceuticals or drugs such as Oral Dosage Forms (ODF) (pills); short-run applications to meet small, acute or emergency needs; or individually designed implantable pharmaceuticals or biomedical devices, may be carried out via transmission of data over computer networks".

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 571-272-6734. The examiner can normally be reached on Monday-Tuesday 8:30am-5pm, and Wednesday, 8:30 am-12:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238 [After final communications, labeled "Box AF"], 703-746-7239 [Official Communications], and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

A. R. B.
July 18, 2005

JOHN W. HAYES
PRIMARY EXAMINER